



THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Docket No.: TI-30916

Lior Ophir et al.

Art Unit: 2631

Serial No: 09/887,490

Examiner: TBD

Filed: 06/22/2001

For: SYSTEM AND METHOD OF DATA COMMUNICATION USING TURBO
TRELLIS CODED MODULATION COMBINED WITH CONSTELLATION
SHAPING WITH OR WITHOUT PRECODING

RECEIVED
MAY 24 2002
Technology Center 2600

MAILING CERTIFICATE UNDER 37 C.F.R. §1.8(A)
I hereby certify that the above correspondence is being deposited
with the U.S. Postal Service as First Class Mail in an envelope
addressed to: Assistant Commissioner for Patents, Washington,
D.C. 20231, on the date below:

Joyce A. Douglas

Joyce A. Douglas

may 9, 2002

Date

Assistant Commissioner for Patents
Washington, DC 20231

INFORMATION DISCLOSURE STATEMENT

Dear Sir:

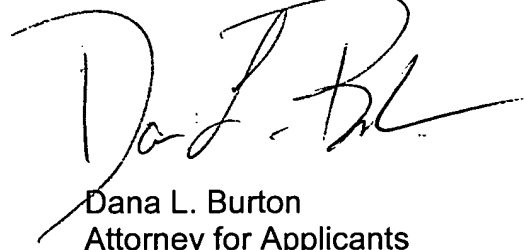
Applicant wishes to bring the references noted on the enclosed PTO-1449 to the
attention of the Patent and Trademark Office. The enclosed art was cited in a related
European case.

Serial No: 09/887,490
TI-30916

The enclosed articles and/or patents listed on the attached PTO 1449 form are deemed relevant to the examination of the subject application.

Please charge any fees to deposit account 20-0668 of Texas Instruments Incorporated.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Dana L. Burton', is written over a horizontal line.

Dana L. Burton
Attorney for Applicants
Reg. No. 35,088

Texas Instruments Incorporated
P.O. Box 655474
M/S 3999
Dallas, TX 75265
(972) 917-4161

Please type a plus sign (+) inside this box →



PTO/SB/08A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Substitute for Form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet	1	of	1	Application Number	09/887,490
-------	---	----	---	--------------------	------------

Complete If Known

Application Number	09/887,490
Filing Date	06/22/2001
First Named Inventor	Lior Ophir et al.
Group Art Unit	2631
Examiner Name	Unknown
Attorney Docket No.	TI-30916

U.S. PATENT DOCUMENTS

Exam. Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Doc.	Date of Pub. of Cited Doc. (mm-dd-yyyy)	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	AA					

FOREIGN PATENT DOCUMENTS

Exam. Initials*	Cite No. ¹	Foreign Patent Document			Name of Patentee or Applicant of Cited Doc.	Date of Pub. of Cited Doc. (mm-dd- yyyy)	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Office ³	Number ⁴	Kind Code ² (if known)				
	BA							

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Exam. Initials*	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	CA	"Multilevel Codes: Theoretical Concepts and Practical Design Rules", IEEE Transactions on Information Theory, Vol. 45, No. 5, July 1999 (1999-07), pages 1361-1391, XP002187530, New York, US, Section VIII, (UDO WACHSMANN, ROBERT F.H. FISCHER and JOHANNES B. HUBER)	
	CB	"The Art of Signaling: Fifty Years of Coding Theory", IEEE Transactions of Information Theory, Vol. 44, No. 6, June 1998 (1998-06); pages 2561-2595, XP002187531, Sections I.G, I.H and I.J, (A. R. CALDERBANK)	
	CC	"Multilevel Coding: Aspects from Information Theory", IEEE Global Telecommunications Conference, 18 November 1996 (1996-11-18) - 22 November 1996 (1996-11-22), pages 26-30, XP010219990, New York, US; Section 4, (ROBERT F.H. FISCHER, JOHANNES B. HUBER and UDO WACHSMANN)	
	CD	"Applications of Error-Control Coding", IEEE Transactions on Information Theory, Vol. 44, No. 6, October 1998 (1998-10), pages 2531-2560, XP002187532, New York, US, ISSN: 0018-9448, Abstract, (DANIEL J. COSTELLO, JR., JOACHIM HAGENAUER, HIDEKI IMAI, and STEPHEN B. WICKER)	
	CE	"Trellis Precoding: Combined Coding, Precoding and Shaping for Intersymbol Interference Channels", IEEE Transactions on Information Theory, Vol. 38, No. 2, March 1992 (1992-03), pages 301-314, XP000257684, New York, US, Abstract, (M. VEDAT EYUBOGLU and G. DAVID FORNEY, JR.)	
	CF	"Two Approaches to Multilevel QAM Coding", IEEE International Symposium on Information Theory, 16-21 August 1998, page 208, XP010296850, New York, US, The Whole Document, (ANAND R. OKA, SHRAGA BROSS and SHLOMO SHAMAI(Shitz))	
	CG	"Turbo Codes with Non-Uniform Constellations", IEEE International Conference on Communications, 11-14 June 2001, pages 70-73, XP002187533, Piscataway, USA, IEEE, US, Page 70, left-hand column, paragraph 2, (CHRISTINE FRAGOULI, RICHARD D. WESEL, D. SOMMER and G.P. FETTWEIS)	
	CH	"The Effect of a Precoder on Serially Concatenated Coding Systems with an ISI Channel", IEEE Transactions on Communications, Vol.49, No. 7, July 2001 (2001-07), pages 1168-1175, XP002187534, New York, US, ISSN: 0090-6778, Abstract, (INKYU LEE)	
	CI	"Precoding for Block Signalling and Shaped Signal Sets", IEEE International Conference on Communications, 11-14 June 1989, pages 1086-1090, Vol. 2, XP000075283, 1989, New York, NY, USA, IEEE, USA, Abstract, (S. KASTURIA and J.M. CIOFFI)	
	CJ	"A Simple and Effective Precoding Scheme for Noise Whitening on Intersymbol Interference Channels", IEEE Transactions on Communications, Vol. 41, No. 10, October 1993 (1993-10), pages 1460-1463, XP000398022, New York, US, Abstract, (RAJIV LAROA, STEVEN A. TRETTER and NARIMAN FARVARDIN)	

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Unique citation designation number. ²See attached Kinds of U.S. Patent Documents. ³Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3).

⁴For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231